

Claims

[c1] We claim as our invention:

1. A golf club head comprising:
a face component composed of a metal material, the face component having a striking plate portion and a return portion with a sole extension, the striking plate portion having a thickness in the range of 0.010 inch to 0.250 inch and the return portion having a thickness ranging from 0.010 inch to 0.250 inch, the return portion extending a distance ranging 0.25 inch to 1.5 inches from a perimeter of the striking plate portion, and the sole extension extending 0.05 inch to 3.0 inches from an edge of the return portion;
an aft-body composed of a non-metallic material, the aft body having a crown portion and a sole portion, the aft-body attached to the return portion of the face component; and
a means for modifying the sound characteristics of the golf club head, the means being attached to the face component;
wherein the golf club head has a coefficient of restitution of 0.80 to 0.94.

- [c2] 2. The golf club head according to claim 1 wherein the means for modifying the sound characteristics is composed of a metal material.
- [c3] 3. The golf club head according to claim 2 wherein the metal material for the means for modifying the sound characteristics is selected from a group consisting of a titanium alloy, amorphous metal, stainless steel and maraging steel.
- [c4] 4. The golf club head according to claim 1, wherein the means for modifying the sound characteristics is attached to an interior surface of the face component.
- [c5] 5. The golf club head according to claim 4 wherein the means for modifying the sound characteristics is attached to the interior surface of the sole extension.
- [c6] 6. The golf club head according to claim 4 wherein the means of modifying the sound characteristics includes a ring.
- [c7] 7. The golf club head according to claim 4 wherein the means of modifying the sound characteristics includes a conical object.
- [c8] 8. The golf club head according to claim 1 wherein the means for modifying the sound characteristics of the

golf club head are attached using a welding or e-beam process.

- [c9] 9. The golf club head according to claim 1 wherein, the means for modifying the sound characteristics is attached to an exterior surface of the face component.
- [c10] 10. The golf club head according to a claim 9 wherein the means for modifying the sound characteristics includes an arcuate piece having a first end and a second end, the first end being attached to the return portion of the face component at a toe end, the second being attached to the return portion at a heel end.
- [c11] 11. The golf club head according to claim 10 wherein the aft-body includes a ribbon portion located between the crown portion and the sole portion, the arcuate piece extending generally along the ribbon portion of the aft-body.
- [c12] 12. The golf club head according to claim 11 wherein a fastener secures the arcuate piece to a rear section of the ribbon portion, the arcuate piece being detached from the aft body except at the fastener.
- [c13] 13. A golf club head comprising:
 - a face component composed of a metal material, the face component having a striking plate portion and a re-

turn portion with a sole extension, the striking plate portion having a thickness in the range of 0.010 inch to 0.250 inch and the return portion having a thickness ranging from 0.010 inch to 0.250 inch, the return portion extending a distance ranging 0.25 inch to 1.5 inches from a perimeter of the striking plate portion, and the sole extension extending 0.05 inch to 3.0 inches from an edge of the return portion, the sole extension having an interior and exterior surface;

an aft-body composed of a non-metallic material, the aft body having a crown portion and a sole portion, the aft-body attached to the return portion of the face component; and

means for modifying the sound characteristics of the golf club head, the means being composed of a metallic material, having a mass in the range of 1 gram to 10 grams, and being attached to the interior surface of the sole extension;

wherein the golf club head has a coefficient of restitution of 0.80 to 0.94.

[c14] 14. The golf club head according to claim 13 wherein the means for modifying the sound characteristics includes a ring.

[c15] 15. The golf club head according to claim 13 wherein the means for modifying the sound characteristics includes a

conical object.

[c16] 16. A golf club head comprising:

a face component composed of a metal material, the face component having a striking plate portion and a return portion with a sole extension, the striking plate portion having a thickness in the range of 0.010 inch to 0.250 inch and the return portion having a thickness ranging from 0.010 inch to 0.250 inch, the return portion extending a distance ranging 0.25 inch to 1.5 inches from a perimeter of the striking plate portion, and the sole extension extending 0.05 inch to 3.0 inches from an edge of the return portion;

an aft-body composed of a composite material, the aft body having a crown portion and a sole portion, the aft-body attached to the return portion of the face component; and

means for modifying the sound characteristics of the golf club head, the means being composed of a metallic material, having a mass in the range of 1 gram to 10 grams, and being attached to an exterior surface of the face component;

wherein the golf club head has a coefficient of restitution of 0.80 to 0.94.

[c17] 17. The golf club head according to claim 16 wherein the means for modifying the sound characteristics includes

an arcuate piece having a first end and a second end, the first end being attached to the return portion of the face component at a toe end, the second end being attached to the return portion at a heel end, the arcuate piece extending around the aft-body.

- [c18] 18. The golf club head according to claim 17 wherein a fastener secures the arcuate piece to a rear section of the aft-body, the arcuate piece being detached from the aft-body except at the fastener.
- [c19] 19. The golf club head according to claim 16 wherein the means for modifying the sound characteristics is welded to the exterior surface of the face component.